The Cholesterol Lowering Effects of Eurycoma longifolia Jack (Tongkat Ali) Root Extract in Male Rats

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MAKARA JOURNAL OF HEALTH RESEARCH
Volume: 21 **Issue:** 1 **Pages:** 25-29
Published: APR 2017

Abstract

Background: To investigate the effect of Eurycoma longifolia Jack root extract on serum lipids in rats. Methods: Twenty-six mature male albino Wistar rats were used in this study. A group of 18 rats were fed a high fat and high cholesterol diet for 4 weeks, after which their lipid profile was compared to the control group, who were kept on a normal diet. The rats were then further divided into three groups, the Cf group that continued to feed on a high fat and cholesterol diet only, and group A and group B who continued on a high fat diet with the addition of 5 mg/kg and 10 mg/kg of Eurycoma longifolia Jack root extract respectively for 4 weeks. After the 4 week period, the rat's lipid profiles were analysed again. Results: Group A and B showed significant total cholesterol reduction when compared to the Cf group, 140 +/- 7.23, 139.63 +/- 7.95, 192.14 +/- 8.96 mg/dL respectively ($p < 0.001$). The total cholesterol/HDL ratio in group A was 5 however there was a sharp increase in group B to a high-risk level of 9.2 indicating a significant drop in HDL levels. The LDL level increased significantly in both group A and B compared to the Cf group. Conclusions: Eurycoma longifolia Jack root extract is effective in lowering total cholesterol, however the dose needs to be adjusted to prevent an excessive decrease in HDL levels.

Keywords

Author Keywords: wistar rats; cholesterol; Eurycoma longifolia Jack; HDL; LDL

KeyWords Plus: DENSITY-LIPOPROTEIN CHOLESTEROL; CORONARY-HEART-DISEASE; LATE-ONSET HYPOGONADISM; CARDIOVASCULAR-DISEASE; TESTOSTERONE REPLACEMENT; MEN; MORTALITY; THERAPY; QUASSINOIDS; IMPACT

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Funding

Funding Agency	Grant Number
Research Management Center, International Islamic University Malaysia	

View funding text

Publisher

UNIV INDONESIA, DIRECTORATE RESEARCH & PUBLIC SERV, UI CAMPUS, KAMOUS UNIV INDONESIA, DEPOK, 16424, INDONESIA

Categories / Classification

Research Areas: Research & Experimental Medicine

Web of Science Categories: Medicine, Research & Experimental

Document Information

Document Type: Article

Language: English

Accession Number: WOS:000404429500005

ISSN: 2356-3664

eISSN: 2356-3656

Other Information

IDS Number: EZ0XJ

Cited References in Web of Science Core Collection: 33

Times Cited in Web of Science Core Collection: 0